F·A·A·M facility for airborne atmospheric measurements

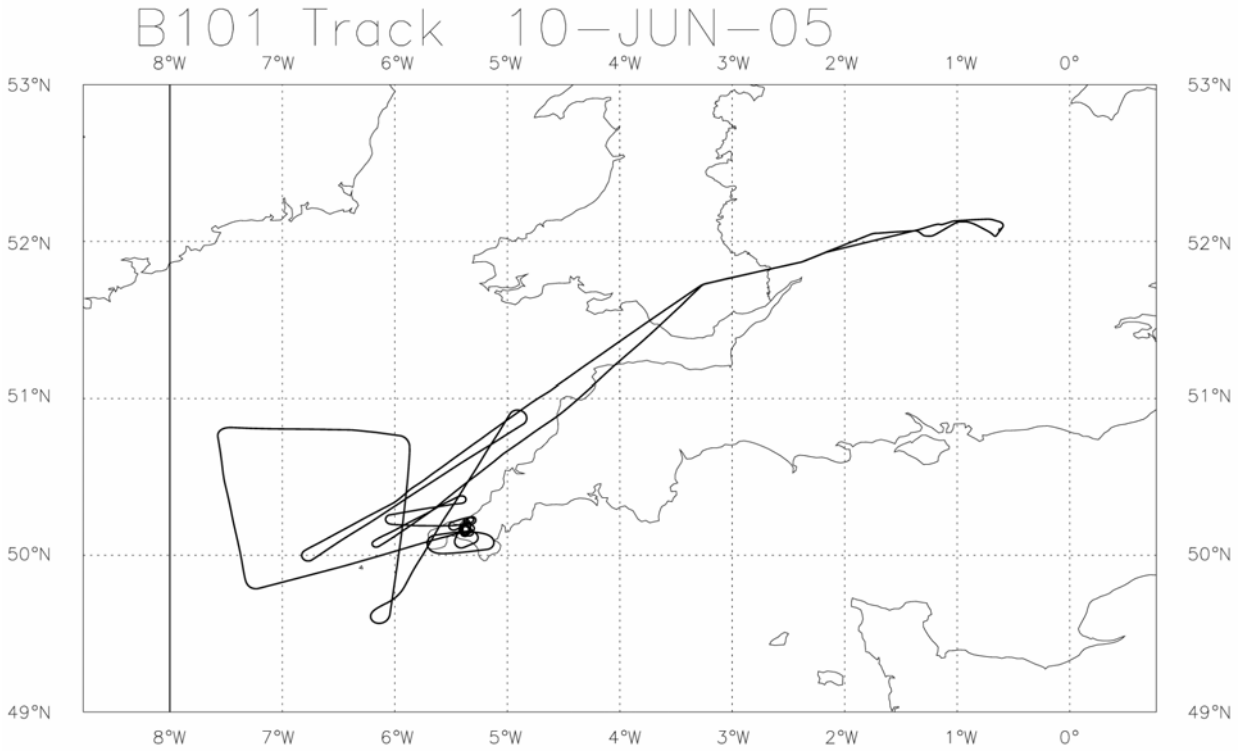
FLIGHT FOLDER

Flight No.:	B101
Date:	10 Jun 2005
Take Off	09:46:57
Landing:	14:34:24
Flight Time	4h47m27

Campaign: Test Flying
Trials Instructions:
Operating Area: SW Approaches

POB	Position	Name	Institute
1	Captain	Alan Foster	Directflight
2	Co-pilot	Ian Ramsey Rae	Directflight
3	CCM	Sue Angold	Directflight
4	Mission Scientist 1	Jon Taylor	Met office
5	Flight Manager	Alan Woolley	FAAM
6	Cloud Physics	Jamie Trembath	FAAM
7	BBR diagnostics	Jim Crawford	FAAM
8	Core Chemistry / CCM2	Ruth Purvis	FAAM
9	CCN/CVI	Paul James	FAAM
10	FWVS	James Bowles	Met Office
11	CVI Training	Stuart Heath	FAAM
12	AVAPS	Steve Devereau	FAAM
13			
14			
15			
16			
17			
18			
19			
20			

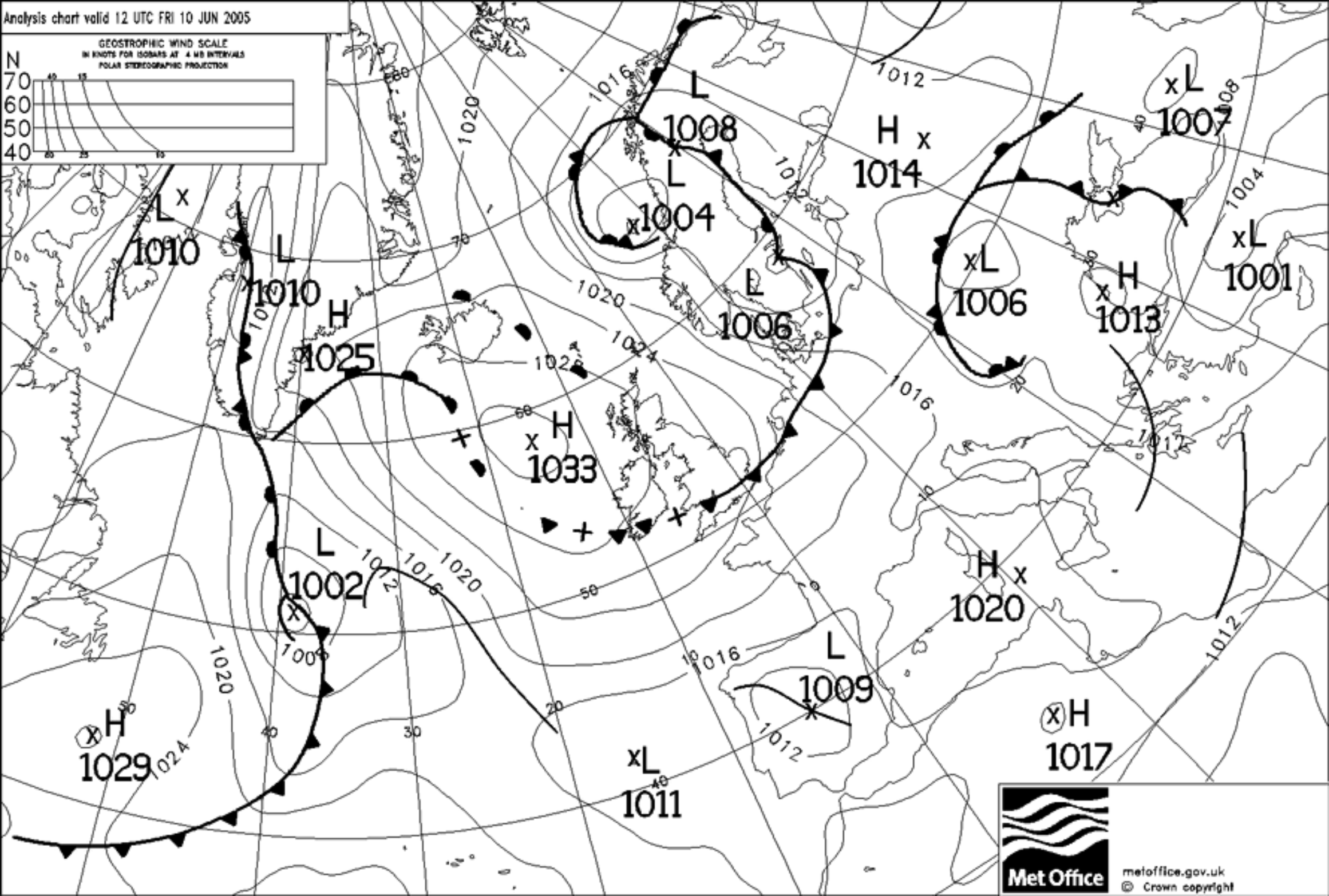
Flight Track:



FLIGHT SUMMARY

Flight No B101
Date: 10/6/05
Project: Test flying
Location: SW Approaches

Start Time	End Time	Event	Height (s)	Hdg	Comments
091632		start position	0.00 kft	127	52'04.36N, 0'37.48W
093124		engine start	0.00 kft	127	
093214		inu to nav	0.00 kft	127	
093435		power change	0.00 kft	127	
093720		taxy start	0.00 kft	127	
094657		T/O	-.01 kft	031	from cranfield
101620	103854	Profile 1	18.0 - -.08 kft	226	
102802		Profile 1	6.1 kft	229	rate of decent to 500 ft/min
103855	104855	Run 1.1	-.08 kft	230	
105033	110034	Run 1.2	-.11 - -.08 kft	054	
110336	110840	Run 2	6.5 kft	262	
111844		spiral ascent start	1.3 kft	080	track cambourrne radi osonde
115122		spiral ascent end	31.1 kft	076	
115709	120710	Run 3.1	31.0 kft	257	cross sun run
115755		sonde 1	31.0 kft	256	sonde 1
115807		sonde 2	31.0 kft	256	
115842		sonde 3	31.0 kft	257	
115919		sonde 4	31.0 kft	257	
120843	121925	Run 3.2	31.0 kft	351	down sun run
122048	123048	Run 3.3	31.0 kft	086	cross sun run
122103		sonde 5	31.0 kft	087	
122128		sonde 6	31.0 kft	087	
122201		sonde 7	31.0 kft	086	
122236		sonde 8	31.0 kft	086	
123228	124229	Run 3.4	31.0 kft	180	up sun run
124521	125306	Profile 2	31.0 - 24.0 kft	053	
125306	130311	Run 4	24.0 kft	025	
130535	131329	Profile 3	24.1 - 17.0 kft	238	
131330	131513	Run 5	17.0 kft	236	
131531	131923	Profile 4	17.0 - 13.2 kft	236	
132123	132423	Run 6.1	13.8 kft	237	
132618	133321	Run 6.2	13.8 kft	055	
133328	135246	Profile 5	13.8 - .07 kft	056	
134420		Profile 5	3.8 kft	051	r.o.d.to 500ft/min
143424		Land	0.03 kft	031	at cranfield
144002		standstill	0.03 kft	307	52'04.36N, 0'37.50W


Analysis chart valid 12 UTC FRI 10 JUN 2005
GEOSTROPHIC WIND SCALE
IN KNOTS FOR ISOBARS AT 4 MB INTERVALS
POLAR STEREOGRAPHIC PROJECTION
N
70
60
50
40
L 1010
L 1010
H 1025
L 1008
L 1004
H 1014
L 1007
L 1006
H 1013
L 1001
H 1033
L 1002
H 1020
L 1009
H 1029
L 1011
H 1017
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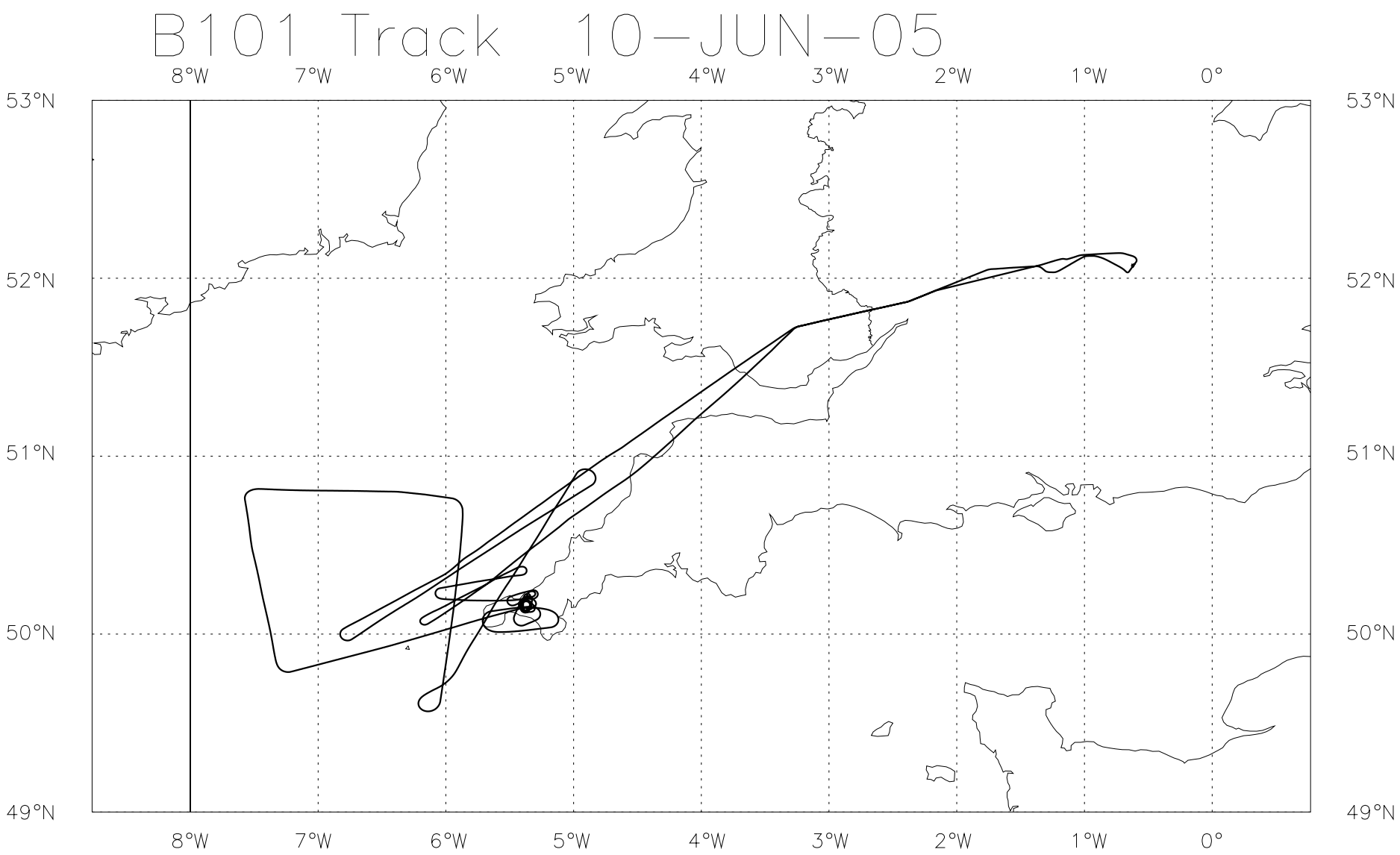
B101 Track 10-JUN-05
8°W
7°W
6°W
5°W
4°W
3°W
2°W
1°W
0°
53°N
52°N
51°N
50°N
49°N

SORTIE BRIEF – Dropsonde and BBR Test Flight

Flight Number: B101 **Date: 10th June 2005**
Mission Scientist: Jonathan P Taylor (Met Office)

Sortie Aim: To evaluate the water vapour measurements on the BAE146-301 and the dropsonde system against a radiosonde launch out of Camborne (50.220N, 5.320W, altitude 88m). Also to evaluate the performance of the Broad Band Radiometers (BBRs).

Camborne Contact Details: Tel: 01209 712579 Mob: 07753 880257 - Dave Drew.

Instrument Specifics Instructions: Covers are to be flown over the domes of the upper and lower red dome BBRs. During SOME of the straight and level runs the lower clear dome instrument is to be disconnected from the DLU to assess the impact on the other instruments.

Sortie Detail:

1. T+0 T/O from Cranfield and transit to South West Approaches to arrive at low level. (30)
2. T+30 Profile to 50ft from transit altitude at 1000ft/min reducing to 500ft/min in the boundary layer. (15)
3. T+45 Fly straight and level run at 100ft over ocean for 10 mins.(10)
4. T+55 Fly reciprocal straight and level run at 100ft for 10 mins – **Remove clear dome inst from DLU.** (10)
5. T+65 Re-position to Camborne radiosonde launch site to be at 1000ft agl to circle area at around 1nm from site. (15)
6. T+80 Radiosonde launch – will occur at 1115Z
7. T+80 Fly ascending spiral orbit about 1nm radius from balloon keeping level with balloon as long as possible up to a time when balloon accelerates away from aircraft climb. Average ascent rate of the balloon will be 1000 to 1200ft/min. Continue profile to max altitude in same spiral orbit (45).
8. T+125 Fly a box pattern at maximum altitude with legs orientated into, across, down and across sun. (exact order or runs not critical). Each leg should be 10mins straight and level. During first run launch 4 dropsondes in quick succession (1 new, 1 opened, 1 new with htrs on, 1 open with htrs on). During the 3rd run launch 4 more dropsondes in quick succession). Remove clear dome from lower DLU for short periods during 2nd and 4th runs of box. (45)
9. T+170 Profile descent to lowest altitude at 1000ft/min reducing to 500ft/min in boundary layer. This profile will be interrupted at two levels for 10 min straight and level runs for FWVS tests. The altitudes of these runs will be assessed on the basis of the data gathered during the previous ascent but will occur in air where the dew point temperature is less than -15 deg C. (60)
10. T+230 Transit back to Cranfield (45)
11. T+275 Land at Cranfield.

Jon Taylor

Aircraft Scientist's Log

Flight No **B.101** Date 16/6/05 Page 1 of 6

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
					Cldbse 2000ft tops 3200ft
					8/8Sc clear above
0958					Some Ci wisps but < 1/8.
					Some convection ahead but shallow.
		FL180			Wdir = 963
					Wrod = 7.02 (across ac)
					↑dir = 526.28
					↑rod = -3.61 (across ac)
101801	P1	FL180↓	226		St P1 ↓ @ 1000ft/min
1028	P1	FL060			Change of descent rate to 500ft/min 01345 ~~973008~~
					Top of inversion some haze
					PCASP good/ok.
					Broken Cu/Sc over land just base over water some thin Ci patches 1/8.
103137		FL062	230°		Right down thro' hole in cld.
					thin Sc above.
					Wdir = 861 Wrod = -9.5
					↑dir = 50.6 ↑rod = 12.81
103854	P1 R1.1	250ft	230	50.6/5.3.	Ends P1 + St R1.1 @ 250ft
					T = 13.6 Td = 12.11°C wind 8m/s / 350deg
					P1 = 1016mb. P0 = 1026↓ below 7/8Sc
					Vdir = 71699 Vrod = 0.12
					↑dir = 62.56 ↑rod = 12.81
104852	R1.1	250ft	230	50/6.1	Ends Run 1.1 @ 250ft.
105033	R1.2	250ft.	056		St R1.2 @ 250ft

J. Taylor

Aircraft Scientist's Log

Flight No B.101..... Date 10/6/05..... Page 2 of 4

FAAM © 2004

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
105100					lens clean OFF
105200					lens clean ON
105300					clr ON RED ON IR OFF.
105600					ALL ON
105700					CLR IR OFF RED ON.
					Vdr = 1063 → 536 Vrad = 3.78
					↑dr = 38.8 ↑rad = 5.97.
110036	R1.2	250	059	50.3/5.6	End R1.2
					Climb to ~~7000ft~~ 6500ft for short run aborted.
110336	R2	FL065	262	50.3/5.5	St R2 above 8/8 Sc.
					Vdr = 958.67 Vrad = 22.93
					~~Edr~~ dr = 257.16 ↑rad = -2.28
					Some v. thin Ci above.
					Lens CLR OFF Vdr = 959 Vrad = 9.89
					↑dr = -0.06 ↑rad = -3.66
110840	R2	FL065		50.2/6.0W	End R2. above Sc. Spiral Ascent.
					Sty P2 alongside balloon.
					missed launch by 2 mins. but
					in same air mass. Inversion 6500ft
1126					pond balloon. = 9500ft still now profiles of
					FL260 = -29°C Temp Last balloon @ FL220
					-15°C = FL180 Temp but in same air mass.
115136	P2	FL310	076	50.0/5.2	End P2

J. Taylor

1605

Aircraft Scientist's Log

Flight No **B**.....101..... Date .....10/6/05..... Page .....3..... of .....4.....

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
115710.	R3.1	FL310	257	50.0/5.7	St Run 3.1 dropsonde run + box pattern.
					clear skies above 4/8 Sc below
					Hdg = 167.0° Across sea run
					Sonde 1.
					Sonde 2. High levels of CO at FL310!
					sonde 3.
					Sonde 4.
115913					T = -05.8 Td = -50.2.
					FWVS in good agreement with GE
					Td -50.2 @ FL260
					Td = -25 @ FL170
120710					End R3.1
120843	R3.2	FL310	258	49.8/6.4	St R3.2 # Across sea
					Hdg = 168.6 θ = 27.6°
					Hdg = 258 deg ABL towers being replaced by Sean during run for intermittent times
121043.					Cloud.
					Vdir = 108° Vrad = 3.76
					Tdew = 80.55 Trad = 1.W.m⁻² Some thin Ci above
121920	R3.2	FL310			End R3.2 Box
122048.	R3.3	FL310			St R3.3 Across Sea + sonde launch
					Sondes 5 → 8.
123048	R3.3	FL310	085	50.7/5.9	End R3.3 across sea θ = 27 Hdg = 180 Hdg = 085
123228.	R3.4	FL310	186		St R3.4. Into Sea
124229.	R3.4	FL310		49.6/6.1	End R3.4 Into Sea.

J. Taylor

Aircraft Scientist's Log

Flight No B.161..... Date 16/6/05..... Page 4 of 4

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GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
125306	R4	FL260	026		St Run 4 + End of Rg 3
					FWVS Td = -46°C. GE = -43°C
					Some thin Ci patches above.
130331	R4	FL260	033		End of Run 4 Td = -42.97°C
					wind 11m/s / 332°.
130535	P3	FL260↓	238	50.7°/6.9	St of P3 ↓ @ 1000ft/min.
131324	P3	FL170	236	50.4°/5.7	End of P3 @ FL170
					+ Start of Run 5.
131503	R5	FL170			End of R5 + St of P6 @ FL170↓
		FL150.			End R5. dew point too high.
132123	R6.1	FL138.			St of R6.1 Td = -20°C.
132623	R6.1	FL138			End R6.1
132618.	R6.2	FL138.	055	50.0°/6.7	St R6.2 on reciprocal Td = -23.5°C.
					wind 6/346°. clear skies below
					+ above. Poss some thin Ci
133321	R6.2	FL138	059	50.2°/6.0w	End of R6.2
133328	P5	FL138↓			Start of P5 ↓ @ 200ft. P5 ??
					PCASP seems very structured with
					distinct polluted layer at ~ FL130
					5700ft PCASP = 750/cc. into
	P5				v. hazy layer.
135246	~~P5~~	200ft	050	51.0°/6.6	End of P5.
					Entered exhaust of ship.

FAAM Dropsonde Flight Log

Flight No.	B101	Date	10th June 2005
Page No.	1 of	Operator	Steve Devereau

GMT	Sonde No.	Event	Comments
		e.g. launch, splashdown	*e.g. wind data? PTH data? Lat/Long* *NB strings of dropsonde data contain:* *time, pressure hPa, T deg C, RH %, wind direction deg, wind speed m/s, longitude, latitude, height m*
	01		Freshly opened sonde, no RH cycle
11:57:36	01	Launch	115736.0 287.20 -45.70 53.68 2.10 17.80 -17.40 -5.80400 50.06720 9453.70
	01		No winds or position data
12:04:58	01	Splashdown	120458.5 1021.86 14.58 85.77 999.00 999.00 999.00 999.00000 99.00000 -269.94
	02		Opened sonde (5 months), RH1 cycle 10/30/0/1600
11:58:06	02	Launch	115806.0 287.40 -45.50 53.13 4.20 17.50 -17.90 -5.87990 50.05100 9448.80
	02		Good drop
12:09:39	02	Splashdown	120939.0 1023.15 13.90 86.64 10.30 7.10 -10.54 -5.90385 50.01044 -274.55
	03		Freshly opened sonde, RH1 cycle 10/30/0/1600
11:58:42	03	Launch	115842.0 287.30 -45.60 56.26 4.30 17.70 -17.70 -5.96780 50.03220 9452.30
	03		No winds or position data. Fast fall.
12:05:31	03	Splashdown	120531.5 1022.45 15.00 84.47 999.00 999.00 999.00 999.00000 99.00000 99999.00
	04		Opened sonde (5 months), no RH cycle
11:59:18	04	Launch	115918.0 287.20 -45.80 60.93 6.90 17.50 -17.70 -6.05560 50.01360 9453.70
	04		Good drop
12:10:41	04	Splashdown	121041.0 1022.21 14.04 86.48 21.04 7.38 -11.03 -6.08104 49.97217 -259.91

Flight No.	B101	Date	10th June 2005
Page No.	2 of 2	Operator	Steve Devereau

GMT	Sonde No.	Event	Comments
		e.g. launch, splashdown	*e.g. wind data? PTH data? Lat/Long* *NB strings of dropsonde data contain:* *time, pressure hPa, T deg C, RH %, wind direction deg, wind speed m/s, longitude, latitude, height m*
	05		Freshly opened sonde, no RH cycle
12:21:03	05	Launch	122103.0 287.00 -44.80 75.89 23.50 17.20 -18.50 -7.41000 50.81470 9458.20
	05		Good drop
12:32:50	05	Splashdown	123250.4 1025.03 13.54 89.88 50.42 7.27 -10.28 -7.43562 50.76335 -290.11
	06		Opened sonde (5 months), RH1 cycle 10/30/0/1600
12:21:27	06	Launch	122127.0 287.20 -44.80 75.89 23.30 17.80 -18.60 -7.35370 50.81290 9454.80
	06		Good drop
12:32:50	06	Splashdown	123249.4 1024.92 13.56 999.00 50.13 7.91 -10.75 -7.37734 50.76301 99999.00
	07		Freshly opened sonde, RH1 cycle 10/30/0/1600
12:22:00	07	Launch	122200.0 287.30 -44.80 74.21 23.70 18.40 -18.40 -7.27390 50.81060 9451.20
	07		Good drop
12:33:19	07	Splashdown	123319.4 1024.90 13.41 89.06 42.02 8.71 -11.29 -7.29739 50.76096 -283.50
	08		Opened sonde (5 months), RH1 cycle 10/30/0/1600
12:22:36	08	Launch	122236.0 287.20 -44.70 71.78 22.10 18.80 -18.30 -7.18920 50.80880 9455.00
	08		V. poor winds and no position data. Dropsonde had no oscillator warm-up
12:33:46	08	Splashdown	123346.4 1025.05 13.38 85.33 999.00 999.00 999.00 999.00000 99.00000 -271.51

B101	**10th June 2005**				
bbr log	**Jim Crawford**				
run 1.2					
clr	**red**	**ir**			
on	on	on	10:50:30		
OFF	on	on	10:51:00		
on	on	on	10:52:00		
on	on	OFF	10:53:00		
on	on	on	10:54:00		
on	OFF	on	10:55:00		
on	on	on	10:56:00		
OFF	on	OFF	10:57:00		
on	on	on	10:58:00		
on	OFF	OFF	10:59:00		
on	on	on	11:00:00		
			11:00:34	**end**	
run 2.1					
clr	**red**	**ir**			
on	on	on	11:03:36		
OFF	on	on	11:07:30		
			11:08:04	**end**	
run 3.2					
clr	**red**	**ir**			
on	on	on	12:08:43		
OFF	on	on	12:10:43		
on	on	on	12:11:43		
OFF	on	on	12:13:43		
on	on	on	12:14:43		
OFF	on	on	12:17:43		
on	on	on	12:18:43		
			12:19:25	**end**	
run 3.4					
clr	**red**	**ir**			
on	on	on	12:32:28		
OFF	on	on	12:34:28		
on	on	on	12:35:28		
on	OFF	on	12:37:28		
on	on	on	12:38:28		
on	on	OFF	12:40:28		
on	on	on	12:42:26		
			12:42:29	**end**	

FLIGHT NUMBER: B101	DATE: 10 Jun 05	OPERATOR: RMP	Page 1 of 1
PROJECT: BBRs testflight			

CORE CHEMISTRY PRE FLIGHT LOG

PRE POWER UP	
All sample lines are connected to the rack	OK
All cylinders pressures are OK	OK
Ozone Span = 504, Offset = 50	OK

GAS PRESSURES	N_2 (bar)	CO_2 / Argon (bar)	CO standard (bar)
PRE FLIGHT			
POST FLIGHT			

POST POWER UP - GROUND				
Ozone Sample Flow 1 (LPM)	**Ozone Sample Flow 2 (LPM)**	**NO_x Sample Flow (LPM)**	**NO_x Ozonator Flow (LPM)**	**SO_2 Sample Flow (LPM)**
CO Time check against HORACE	**CO Lamp Flow (ml/min)**	**Pressure Monochromator (bar)**	**Pressure Cell (Torr)**	

ZEROS							Average
Ozone (ppbV)							
NO (ppbV)							
NO_2 (ppbV)							
NO_X (ppbV)							
SO_2 (ppbV)							

PRE FLIGHT COMMENTS

No time for zeros as CCM2 familiarisation flight

CORE CHEMISTRY CALIBRATION AND FLOW LOG

PREVIOUS CO CAL	Date and Flight Level	Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)
	unknown			

Time	Flight Level	CO				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
10:11:42	110	78.40	87.99	6898.69	50	7.14
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
		33.89	0.7	0.7	1.039	0.068	ALARM
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
10:44:50	250ft	79.91	88.60	7080.26	50	7.13
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
		33.93	0.4	0.4	1.087	0.069	0.484
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
11:06:50	6500ft	80.59	87.86	7080.62	50	7.13
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
		33.89					
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
	310	80.90	85.20	6892.62	50	6.59
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
		33.98	0.7	0.7	OK	OK	ALARM
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
	138	82.01	85.46	7009.14	50	7.14
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
		33.90					
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample
Time	**Flight Level**	**CO**				
		Sensitivity (Hz/ppbV)	Bkgrd (ppbV)	Bkgd Cnt R (Hz)	Lamp Temp (°C)	Cell Press (Torr)
		Flows (LPM unless stated)				
		CO Lamp Gas (ml/min)	Ozone Sample 1	Ozone Sample 2	NO_x Sample	NO_x Ozonator	SO2 Sample

CORE CHEMISTRY FLIGHT LOG

GENERAL COMMENTS

CLOUD PHYSICS LOG

Flight No. B101 **Date: 10/6/06** **Operator: PAPJ** **Page1 of**

G.M.T.	PCASP		FSSP	SID1	2D2-C			2D2-P			Remarks
DRS Time	Conc/cc	Mean R	Block Transfer	Particle Count	Conc/L	Max Size	Habit	Conc/m3	Max Size	Habit	
			Froze after 5 mins on T/O rebooted ok								
1029	400	0.1		10							060
1031	400	0.1		5							040
1033	650	0.1		5							030
103425	550	0.1		5							020
103610	200	0.08		5							010
103758	400	0.08		10							250ft
103838											End p1 and start run 1 @250ft
1040	600	0.08		10							
1042	650	0.08		10							
1044	600	0.08		10							
1046	600	0.08		10							
1048	500	0.08		10							
104855											End run 1.1
105033	600	0.08		10							Start run 1.2 @250ft
1052	600	0.08		10							
1054	550	0.08		10							
1056	500	0.08		10							
1058	500	0.08		10							
110034											End run 1.2
110336	40	0.1									Start run 2 @065
1105	60	0.1									
1107	70	0.1									
110840											End run 2
111844											Start p2
112146	120	0.09									060
1151											End spiral
115709											Start run 3.1
1158	40	0.08									
1200											
1204	42	0.08									
120710											End run 3.1

CLOUD PHYSICS LOG

Flight No. B101 **Date: 10/6/05** **Operator: papj** **Page2 of**

G.M.T.	PCASP		FSSP	SID1	2D2-C			2D2-P			Remarks
DRS Time	Conc/cc	Mean R	Block Transfer	Particle Count	Conc/L	Max Size	Habit	Conc/m3	Max Size	Habit	
120843											Start run 3.2
1210	40	0.08									
1212	20	0.08									
1214	15	0.08									
1216	10	0.07									
1218	10	0.09									
121925											End run 3.2
122048											Start run 3.3
1222	10	0.1									
1224	10	0.1									
1226	30	0.1									
1228	40	0.08									
1230	30	0.08									
123048											End run 3.3
123228											Start run 3.4
1234	60	0.08									
1236	50	0.08									
1238	40	0.08									
1240	60	0.09									
1242	50	0.09									
124229											End run 3.4
124521											Start p2
124742	20	0.08									290
124959	20	0.09									270
125158	15	0.08									250
125306											240 end p2 and start run 4
1255	30	0.08									
1257	40	0.08									
1259	50	0.08									
1301	50	0.07									
130311											End run 4

CLOUD PHYSICS LOG

Flight No. B101 **Date:10/06/06** **Operator:PAPJ** **Page 3 of**

G.M.T.	PCASP		FSSP	SID1	2D2-C			2D2-P			Remarks
DRS Time	Conc/cc	Mean R	Block Transfer	Particle Count	Conc/L	Max Size	Habit	Conc/m3	Max Size	Habit	
130535											Start p3
130750	5	0.08									220
1310	40	0.08									200
131204	20	0.08									180
131329											170 end p3 and start run 5
1315	25										End of run 5
132123											Start run 6
1323	70	0.1									
1325	80	0.1									
1327	60	0.1									
1329	70	0.1									
1331	70	0.1									
1333	60	0.1									
133321											End run 6.2
133328											Start p5
133559	70	0.1									120
133658	20	0.1									110
133750	60	0.1									100
133850	60	0.09									090
133942	140	0.1									080
134040	60	0.08									070
134140	140	0.1									060
134240	750	0.1									050
134343	700	0.1									040
134533	350	0.09									030
134758	360	0.09									020
134952	350	0.09									010
135246											End p5 @250ft

Flight Manager's Instrument Status Log

Flight No. **B**101 Date: 10/06/05

Instrument	Fitted	Operated	Instrument	Fitted	Operated
Navigation			**Cloud Physics**		
INU		**Y**	**Probes**		
GPS		**Y**	FFSSP	**Y**	**Y**
Satcom C		**Y**	PCASP	**Y**	**Y**
Satcom H		**Y**	2D-P	**Y**	**Y**
Thermometers			2D-C	**Y**	Y
De-Iced Temp		**Y**	Cloudscope	**N**	**N**
Non De-Iced		**Y**	SID 1	**Y**	**Y**
Heimann	**N**		SID 2	**Y**	**Y**
Hygrometers					
G. Eastern		**Y**	HVPS	**N**	
J. Williams		**Y**	CIP25	**Y**	**N**
Nevzorov		**Y**	CIP100	**Y**	**N**
TWC		**Y**			
FWVS		**Y**	**Racks:**		
Radiometers			INC	**Y**	**N**
Upper Clear	**Y**	**Y**	CCN / CNC	**Y**	**Y**
" Red	**Y**	**Y**	CVI	**Y**	**N**
" Silicon	**Y**	**Y**			
" JO1D	**Y**	**Y**	**Aerosol**		
Lower Clear	**Y**	**Y**	PSAP	**Y**	**N**
" Red	**Y**	**Y**	Nephelometer	**N**	
" Silicon	**Y**	**Y**	Filters	**Y**	**N**
" JO1D	**N**		AMS	**Y**	**N**
Large Radiometers					
TAFTS	**N**				
MARSS	**N**				
DEIMOS	**N**		**Others:**		
ARIES	**N**		NIR TDLAS	**Y**	**N**
SWS	**N**		2BT O3	**Y**	**N**
Chemistry			VACC	**Y**	**N**
Ozone	**Y**	**Y**	PEROXIDE	**Y**	**N**
ECGC	**N**		Formaldehyde	**Y**	**N**
NOX	**Y**	**Y**	ADA	**Y**	**N**
CO	**Y**	**Y**	CPI	**Y**	**N**
ORAC	**Y**	**N**	NOxy	**Y**	**N**
PAN	**Y**	**N**	PTRMS	**Y**	**N**
PERCA	**N**	**N**	Bag Sampling	**Y**	**N**
WAS	**Y**	**N**			

Faults / Incidents Log

Flight No. B101
Date: 10/06/05

Instruments

1. Video – DFC display out of focus. Inboard display switches off . Also, RFC (marked DFC…) is virtually black on pc monitor, whereas it displays well on video monitor unit.
2. Mission Scientist's laptop – needs new ethernet cable, the connector at the pc end is falling off.
3. Upper Pyrgeometer – Zero signal following radiance signal exactly.
4. NOX – occasional flutters above max chamber temp but otherwise okay.
5. Aft Core console pc drawer key bent badly – unusable.
6. Horace had to be restarted immediately after takeoff as problems were reported accessing data.
7. RVSM airspeed data were bad following takeoff. ARINC card problem. Reset DLU and problem cleared.
8. Solar azimuth angle only updates every 2 minutes on horace. Looks wrong!

Aircraft

Satcom H:-